

CLAIMS

1. An actuator rod for a turbocharger pressure control assembly, the actuator rod comprising a first elongate portion defining a first rod end, and a second portion defining a second rod end, said first and second portions being pivotally joined to one another to allow a degree of relative pivotal motion between said two portions in at least one plane perpendicular to the axis of said elongate first portion.
2. Apparatus as claimed in claim 1, wherein the pivotal joint between said first and second portions allows pivotal motion in at least two orthogonal planes perpendicular to the axis of said first elongate portion.
3. Apparatus as claimed in claim 2, wherein the pivotal joint is a spherical joint.
4. Apparatus as claimed in claim 3, wherein said spherical joint comprises a spherical formation defined by one of said first and second portions, and a socket defined by the other of said first and second portions to receive said spherical formation.
5. Apparatus as claimed in claim 4 further comprising a pneumatic actuator connected to said first rod end.
6. Apparatus as claimed in claim 5, wherein the pneumatic actuator comprises a spring loaded diaphragm housed within a pressure chamber, said diaphragm being attached to said first rod end.
7. Apparatus as claimed in claim 6 further comprising a valve assembly, end of said actuating rod being connected to said actuator and the other end being connected

to said valve assembly, whereby the pneumatic actuator controls operation of the valve assembly via the actuator rod.

8. Apparatus as claimed in claim 7, wherein the valve assembly further comprises a lever arm extending from and connected to a valve, said second portion of the actuator rod being secured to said lever arm extending from the valve assembly by way of which the valve is operated.

9. Apparatus as claimed in claim 8, wherein said second portion of the actuator rod is welded to said lever arm.

10. A method of assembling a pressure control assembly of a turbocharger, the turbocharger comprising a turbine housing and a compressor, the pressure control assembly comprising a valve assembly mounted within the turbine housing, a pneumatic actuator mounted to the turbocharger to receive pressurised air from the compressor, an actuator rod extending from the pneumatic actuator, and a lever arm extending from the valve assembly and the turbine housing and linking the actuator rod to the valve assembly, wherein the actuator rod is a rod comprising a first elongate portion defining a first rod end, and a second portion defining a second rod end, said first and second portions being pivotally joined to one another to allow a degree of relative pivotal motion between said two portions in at least one plane perpendicular to the axis of said elongate first portion, the method comprising:

assembling the valve assembly and lever arm on the turbine housing;

assembling the pneumatic actuator and actuator rod as a sub-assembly;

mounting the pneumatic actuator/actuating rod sub-assembly to the turbocharger; and

securing the second portion of the actuator rod to the lever arm.

11. A method according to claim 10, wherein the actuator rod is secured to the lever arm by welding or otherwise bonding.

12. A method according to claim 11, wherein prior to securing the actuator rod to the lever arm, the valve assembly is held in a closed position by appropriate clamping of the lever arm and said pneumatic actuator is pressurised to a predetermined pressure, thereby to determine the minimum pressure at which said valve will in use begin to open.